

Thank you, Chancellor.

Early last year, I had a brief discussion with longtime 60 minutes anchor Steve Kroft about the stories he had done over his career, and whether he had any favorites in the field of medicine. As part of this discussion, I related my opinion that although he and I had met as a result of my activities in finance, I had not met one person in finance who could crack the top 50 I met in medicine. And I daresay, with all due respect to Stanford, 45 of those people are here at the Vanderbilt Medical Center, or were trained at the Vanderbilt School of Medicine. So you see, it is a terrific honor for me to address you today. I have nothing but the highest respect for Vanderbilt and the people here.

As the Chancellor so kindly mentioned, I was fortunate enough to have author Michael Lewis stumble upon my story nearly two years ago. Perhaps some of you have read his new book, *The Big Short*. Today, I appreciate the opportunity to address you directly regarding what happened to our economy, and where we're headed.

As some of you know, my formal education is not in finance. In fact, my time as an undergraduate at UCLA was a seemingly random walk through Economics, English, and Biochemistry, without even one course in accounting.

Too, as has been written, I have Asperger's Syndrome, which places me on the autism spectrum, and a childhood cancer left me with a fake left eye since I was 2. Both conditions have actually been huge blessings in a rather nifty disguise.

Perhaps for these reasons among others, however, in my ideal world, it would matter not whether I could look someone in the eye, or whether I could stay awake during lectures. Performance would matter above all else. From an early age, the financial markets therefore held a natural appeal. In my view, men are at their best when scrambling from the abyss, and are typically something less at all other times.

Still, finance seemed something I could always pursue on the side. Some volunteering I had done with children at UCLA led me down another path anyway. And so, in the summer of 1993, I chose to enroll at the Vanderbilt School of Medicine. Nevertheless, from the beginning I studied business along with medicine. For instance, after my first year at Vanderbilt, as a student summer extern at the Rehabilitation Institute of Chicago, I came to study why it was that rehabilitation medicine was doing so well even as others struggled.

I wrote up my conclusions, and looking back at that paper, written in 1994, the year of *Forrest Gump*, I see the same type of research that led me to conclude in 2005 that the US Economy would start to collapse in 2007. Within various bits of legislation, from the creation of Medicare in '68 to the Tax Equalization and Fiscal Responsibility Act of '82, and the Social Security Amendments of '83, I found the catalysts for private market trends that have come to dominate health care for decades. From that summer on, my focus was on the interplay between the actions of our government, and the over-reactions of the private market. The most important consequences, it seemed, were almost always unforeseen.

A few years later in '98, I was a resident physician at Stanford, but as Russia defaulted, and Long-Term Capital buckled, and the Federal Reserve panicked, I was paying close attention. In fact, I came to see the Fed's actions late in '98 as a significant contributor to the ensuing blow-off top of the dot com and telecom bubble in '99 and early 2000.

I put my thoughts about stocks and markets up on a web site I was running during the latter half of the 90s. And what I wrote seemed to attract attention. When I criticized the prospects for index funds and hyperlinked to Vanguard, Vanguard's attorneys kindly told me to cease and desist. I was an early Amazon Associate, but it really seemed to pay off when I got a gig writing for MSN Money at a dollar per word. That was especially great for me since I'm wordy (as you'll see).

A couple years later, as I launched my investment partnership Scion Capital, Vanguard Chairman John C. Bogle would ridicule me as a charlatan in a Forbes magazine cover story. It was a portent of things to come. Whatever success I was bound to achieve, I would repeatedly face severe doubt from the well-credentialed who looked down on my lack of credentials. This, it seems, is an essential feature of many American success stories. So, to Bogle's point, I'm just a doctor, what would I know about markets?

Well, Scion Capital started out ok anyway. I had left medicine with \$145,000 in debt and no assets under management, so of course it got better from there. It was a wild ride from the get-go, as I dived into bankruptcies, telecom blowups, asbestos issues, toxic stubs and other nasty places where I thought profits might be hiding. My fund was structured with a lot of flexibility, but I never gave my investors much transparency into what I was doing. Quite honestly, I suspected from the very beginning that it would perhaps frighten them unnecessarily.

Soon, however, my attention was caught by the growing importance of the housing sector. The amount and type of leverage, the generations-old assumption that prices always went up (if you waited 3 years anyway) and the very broad societal participation called out to me. This was not just a case of a few early adopters or venture capitalists acting badly. The entire economy depended on home price appreciation - consumer spending, jobs, securities markets, all of it. Soon, I would see financial Armageddon looming, with housing as the trigger point.

In predicting when and how the collapse would occur, my focus was again on the actions of our government and the response of the private sector. This was much in keeping with my studies in Chicago a decade earlier.

So let's consider the history. The idea of an "American Dream" involving homeownership has been around for nearly a century. Nearly every modern president promoted it in one way or another. The government helped returning GIs buy homes after World War II, and the government securitized the first mortgage portfolio back in the early 1970s. Private securitized mortgages followed shortly thereafter.

President Reagan would sign the Secondary Mortgage Market Enhancement Act, which among other things allowed pensions and insurance companies to invest in securitized mortgages, and a short time later he made these securities a lot more tax efficient. To be clear, securitization of mortgages meant there was nearly no limit on the amount of mortgages originated by lending institutions. All considered it harmless, a good thing for the American Dream. But all this desire to satisfy the Dream needed a tool, something that would make home loans themselves much more affordable for those without the income, credit, or assets to afford one.

Stepping back to '82, the Depository Institutions Act legalized the Adjustable Rate Mortgage in the United States. These adjustable rate mortgages, or teaser rate mortgages, would, in various forms, be the primary mortgage product at the heart of housing's implosion two and a half decades later. But Adjustable Rate Mortgages did not take off as a mortgage product until additional regulatory and legislative changes in the 90s and early 2000s jumpstarted the market for affordability products in the mortgage space.

Specifically, during the '90s, the Community Reinvestment Act of '77 was reinterpreted by Treasury Secretary Robert Rubin and President Bill Clinton. The general point was to increase pressure on banks to make more loans to less creditworthy customers. And they did. Subprime mortgages experienced a mini-boom in the '90s - issuance rose roughly five-fold during the decade before a mini-collapse. Bill Clinton had a name for this drive: The National Homeownership Strategy.

Then in 1999 the Gramm Leach Bliley Act repealed the Glass Steagal Act of 1933, and officially removed the increasingly leaky separation between the activities of Wall Street firms and depository banks. This freed banks to experiment and to expand into new lines of business, none more fateful than experiments with derivatives and asset backed securitization. The private market therefore gained the capability to mount a massive response to all the government's efforts to stimulate housing.

We all remember '99 well, but in fact our global village underestimated many, many risks throughout the 90s. And so we had to deal with the stock market crash, Enron, 9/11, Worldcom, and eventually War.

The Federal Reserve stepped in, cutting the discount rate it charges banks from 6% to roughly 1% in order to stave off recession. Other key short term rates followed. Not at all coincidentally, from 2001 to 2003 we saw American home prices, which had moved largely in line with changes in household income over the decades, suddenly accelerate up and away from the household income trend line.

Home prices had good reason for such deviation. From 2001 through 2003, rapidly declining short-term rates - to lows not seen since the aftermath of the Great Depression -induced a boom in adjustable rate mortgages. A homeowner's dollar went a lot farther during the teaser rate period, and so home prices rose unnaturally. Risk would be low as long as home price appreciation was strong, thanks to refinancing options. It was a positive feedback loop, with full blessings of the US government.

In fact, amidst early fears that the housing market was getting ahead of itself in 2003, Fed Chairman Alan Greenspan assured everyone that national bubbles in real estate simply do not happen. As I surveyed the national trends in housing, I wondered whether common sense ought rule against the application of precedent to the unprecedented.

Mr. Greenspan went on to advise Americans in 2004 that they were underutilizing the new types of adjustable rate mortgages. And in 2005, he lauded the technologies enabling subprime borrowers to acquire homes. Tragically for all of us, the Fed had the authority to block any lending practices it deemed deserving of such treatment, but it had absolutely no will to do so.

In any event, by 2003, mortgage rates stabilized at 40 year lows. And, importantly, plain vanilla Adjustable Rate Mortgages had already come into widespread use.

This was a big problem for lenders with a growth mandate. They needed to stimulate more loan volume despite stable mortgage rates and inadequate income growth. At this point, if home prices were to rise significantly, they would have to float almost entirely on the back of the type and quality of mortgage credit provided to the buyer. Critically, Interest rates alone would no longer determine affordability. In my letters to investors, I termed this "credit extension by instrument," and it took our housing market into a new paradigm. It was the private market's time to overreact.

The instrument chosen for subprime borrowers by lenders in 2003 was a relic from the 1920s - the interest-only payment option, applied to an adjustable rate mortgage. Lenders, by implementing a mortgage feature they had long avoided, showed, for all to see, they were interested in growth more than they were interested in maintaining credit standards.

By fall of 2004, I noted for my investors that Countrywide Financial, a very large mortgage lender, reported Subprime mortgage originations up 158% year over year despite a 24% decline in overall originations. Evidence was manifest - banks were chasing bad credits, inclusive of housing speculators. The only question was how far they could go. Fraud jumped.

The point at which the provision of credit was most lax would mark the point of maximal price in the asset.

I imagined the top in the housing market would be marked by a mortgage in which home buyers of subprime quality were enticed to buy with teaser rate monthly payments near zero. I was very aware lenders would take this to the nth degree. Thanks to securitization, any loans the banks did not want to keep, they could always sell on through Wall Street to a world of investors simply ravenous for yield.

Importantly, because subprime mortgages were being turned into securities, there were mandatory regulatory filings, and this is how I educated myself.

By summer of 2005, these documents revealed that interest only mortgages had taken a substantial share in the subprime market, often more than 40% of subprime mortgage pools that were passing through Wall Street on their way to investors. This was up from just 10% a year earlier. Simultaneous second lien mortgages ramped up, and the stated income option inspired a new vernacular - liar loans. In some mortgage pools, 40% of subprime loans were for second or vacation homes. Yet as of late 2005, Moody's and S&P, so crucial to the securitization process, were not reacting at all.

The top would soon be fast upon us. As the subprime Interest Only Adjustable Rate Mortgage started to touch maximum sales channel penetration, we saw the introduction on a wide scale of yet another, more extreme teaser rate mortgage called the pay-option ARM. In this new type of mortgage, never before seen in a widely standardized format, the borrower could pay next to nothing each month, and the unpaid interest would simply negatively amortize into the growing mortgage balance. Rampant cash out refinancing had already made the home a magical ATM and now housing had its magical credit card.

Yet, it was blessed by both lenders and investors. This was what I had been waiting for: peak credit. Such a mortgage product would only exist as long as home price appreciation was the central assumption. And Home Price Appreciation was not long for this world precisely because these mortgage products existed.

Some of these sorts of mortgages started making their way into subprime channels too. I knew this because by 2005 I could see these mortgages being packaged into Alt-A mortgage securitizations. But not all of these were sold through to the Street.

Incredibly, Washington Mutual and Countrywide, two very national giants in home loans, began to load their own balance sheets with these pay-option ARMs. Facing another slowdown in loan volumes, these companies saw the negative amortization feature as a way to show loan growth in a slowing market. Yet, these companies, in doing so, also expressed confidence in home price stability in the event of a slowdown in loan origination. Of course, this is what the ratings agencies, the Federal Reserve, Congress, the President and all the President's men believed too.

I disagreed. I saw absolutely no chance of home prices going sideways, or stabilizing for any significant length of time. Once home price appreciation was no longer a given, these new types of mortgages would simply disappear. Home prices, starved of peak credit, would necessarily fall, and fall steeply as mortgage options crumbled away.

The crisis, in my view, would start no later than 2007, by which time teaser rate periods on the vast majority of these new types of mortgages would expire, or reset, for a population of homebuyers trapped in a mortgage they could no longer afford. And on the way down, housing would take consumer spending and jobs with it, setting up a positive feedback loop of a very damaging variety.

So, I decided to short the mortgage market - and profit from the collapse. I set out to buy credit default swaps on subordinated tranches of subprime RMBS. In doing so, I gained a new level of insight into how Wall Street really works.

I called different Wall Street banks to try to convince them to trade in this market with me. Initially, I found no takers. This whole effort was complicated because it was important to me that this security would be standardized, such that if I bought a credit default swap from one dealer counterparty, I could easily trade the credit default swap to another dealer counterparty. Bespoke one offs were full of contract and counterparty risk and were not my thing.

Nevertheless, by May of 2005, we agreed to our first trades shorting the subprime mortgage market with Deutsche Bank. We worked on the soon-to-be-standardized contract language a bit, and in the first days of June '05, the first trades were finally executed. We would ultimately use nine different dealer counterparties, though I avoided Lehman and Bear. Goldman Sachs would feature prominently. To be clear, these credit default swaps would rise in value as mortgages suffer losses.

Now, I wanted to short tens of billions of these mortgages. This was an epic investment opportunity and I shamelessly invoked Soros in my letters to investors. I even attempted to set up a separate vehicle just for this purpose, which I called, and this is for the English majors, Milton's Opus, in the summer of 2005. The effort showed I cannot sell ANYTHING. It met with incredible skepticism from my investors, and when I reached out to outside institutions with the idea, they simply went off to do it themselves. Milton's Opus never got off the ground. Milton's Opus, of course, was Paradise Lost, and I had no doubt that was where we were headed.

By late 2005, I was still alone as a directional short on this market. Goldman and DB in particular seemed very interested in what I was doing. In fact, I would short about \$1.8 billion notional in RMBS, and about \$6.6 billion notional in corporate credits, including AIG, Countrywide, Washington Mutual, Fannie Mae, and Freddie Mac.

AIG was particular interesting because I knew that AIG need not post collateral for its derivatives trades as long as it had a AA or better rating. This information came to me during our negotiations on credit agreements with Goldman Sachs and Bank of America. So I theorized in emails to my staff as far back as April of 2005 that a run on AIG would manifest itself in collateral calls as a result of a ratings downgrade. That no one else theorized this would lead to the unnecessary nationalization of AIG just a few years later, and would cost taxpayers some \$180 billion.

By February of 2006, we were essentially done buying CDS on mortgages, as the ratings agencies finally responded by requiring more collateral in certain subprime mortgage pools. In fact, by that time, the median price of new and used homes had fallen from August 2005, according to the National Association of Realtors. Early mortgage defaults on the summer 2005 vintage were at record levels, as was the glut of new home inventory. Some panic was evident in various articles at the time. It was time for the world to see what I saw. Yet mortgage spreads continued to fall - the implied risk in mortgages was decreasing as 2006 progressed.

Many have wondered why the markets did not send an appropriate warning signal. The answer is that in late 2005, technical factors came into play that kept the credit derivative markets from sending any warning signal.

To this point, Synthetic Collateralized Debt Obligations (CDOs) relying on Credit Default Swaps on subprime RMBS were ramping in a big way as correlation traders sucked up the most subordinate, hardest to sell tranches, and tradable ABX Indices tracking the market for credit default swaps on RMBS emerged. These Indices catered to those needing an easy way to take on a lot of yield without a lot of analysis, such as investors and correlation traders.

Together Synthetic CDOs and the ABX Indices helped distribute risk far and wide, and in exponential fashion relative to the underlying real world mortgages. This would not be a good thing, no matter what the Street's risk model said. And to be clear, there was only one risk model that they all used.

2006 would in fact be the year systemic risk was supersized. It was the year, for example, when Merrill Lynch took its subprime exposure from a few billion to more than 50 billion. Ultimately, Merrill would have to write off over 40 billion in mortgage assets - virtually none of which was on its books prior to 2006. This was the year that really got Wall Street.

As I wrote to investors as 2006 got underway, "It is simply a tragedy of fate that ever-lower returns encourage ever-increasing leverage, with only one possible ultimate outcome. It is a tragedy of our times that our regulators will do nothing about it." As an aside, this is again true today.

I warned investors that 2006 would be difficult for us. It turned out more difficult than I had imagined. Our counterparty dealers priced, or marked, our book of CDS, and our ongoing fight with these dealers such as Goldman Sachs and Morgan Stanley over the validity of these marks hit absurd levels. We were forced to side pocket our RMBS CDS trade.

Facing a very angry crowd of investors, many of whom were demanding their money back, I closed our Hong Kong Office, cut salaries, and laid off staff. We were threatened with lawsuits, and I had to consider liquidation of the fund at December 2006, at the worst possible time. I instead liquidated billions of our corporate credit default swap short positions in something of a fire sale. As our distress was reported in the press- and back then the only press I got was bad press- dealers looked to take advantage. We would receive less than 1/10th of 1 penny on the dollar for many of them, hurting our performance more so. Ultimately, our massive sales shaved billions in putative gains from our portfolio.

But I knew my analysis was correct, and not one of the detractors seemed to be able to get any of the details right. We retained the positions we could. This began to pay off in 2007.

Not that even 2007 was easy. Recently, US Senator Carl Levin provided specific evidence for something that we already knew. That is, our Wall Street bank counterparties -all 9 of them - were trying to screw us right up to the end. The games these counterparties played with marks - or pricing - on our positions - I could talk about those for hours.

But Senator Levin was investigating Goldman in particular, and he disclosed telling emails that showed Goldman adopted a "short squeeze" to drive down the price of credit default swaps such as those held by my funds. As Mr. Swenson, a senior executive at Goldman, said in an email, "We should start killing the shorts in the street...This will have people totally demoralized. " In another email he said he wanted us to feel quote, " maximum pain." What had happened from our point of view at the time was that Goldman had been moving to our side of the trade as early as December 2006, and was working to get into our trade even bigger themselves in Spring of 2007, so a lower price for the Big Short benefitted Goldman Sachs - and that is how Wall Street works.

In late June of 2007, credit spreads started marching higher, and then they just took off for good once Goldman and others were in on the same side as my trade. Then it was AIG's turn to complain about Goldman's marks.

Incredibly, it would later be reported, that more than \$60 trillion in credit derivatives existed at the peak. And the hyperbole would be "that is greater than the value of all goods and services created on planet earth." But it's roughly equal, and who really knows what the gross product of Earth is anyway? Still, \$60 trillion, how? Credit derivatives on an underlying asset could be worth multiple orders of magnitude more than the asset because all asset-backed derivatives settled in cash. That was the secret sauce of the Doomsday Machine.

And so the crisis unfolded, with the market providing a signal far too late. Even so, Fed Chairman Ben Bernanke and Treasury Secretary Hank Paulson continued to underestimate the situation. I was apoplectic.

Secretary Paulson now claims that even if he knew what was going to happen, he could not have done anything about it. But let's be clear. Hank Paulson was US Treasury Secretary fresh from the apocryphal top job at THE Goldman Sachs in that summer of '06, and he orchestrated the once unthinkable government takeovers of AIG, Fannie Mae, Freddie Mac, and the bailouts of Wall Street. He was anything but an impotent tool, and he had a running start unlike any other. But if he truly felt that way, this is an absolutely devastating commentary on how government works.

In fact, as books and articles on the crisis proliferate, it becomes clear that at nearly every failed or severely troubled major institution and within every relevant department of the US government, there was someone whose insight was every bit as farsighted as mine, and in some cases even more so. However, NONE - ZERO - were in the top job. That our CEOs, our Governors, our Presidents, our Chairmen, did not see this coming, and did not adequately prepare their constituencies, is an indictment of the manner by which we choose and enable our leaders.

But such would not be the conclusions made in 2008. By the second half of the year, with the government targeting commodity hedge fund managers with punitive subpoenas, the global attack on so-called speculators and, again, hedge funds, the nationalizations of Fannie, Freddie, and AIG and their liabilities, the Federal Reserve's wide open monetary policy, and TARP, I worried about the future of a nation that would refuse to acknowledge the true causes of the crisis. In my view, an historic opportunity was lost. America had instead chosen its poison as the cure, and the second greatest generation would never be born.

Today, I expect the US government to attempt to continue easy money policies into the next presidential term, past the meat of the foreclosure crisis and the corporate and public refinancing humps. With junk bonds - incredibly - at all-time highs, yes, quantitative easing seems to be working, for now. But this is an invalid validation of what America is doing.

This is in fact a Pyrrhic gamble, as we continue to debase our currency. Bernanke says he is not printing money. Again, I disagree. As it stands, I get an email from the Federal Reserve every single day saying they're monetizing 7 or 8 billion dollars or so of Treasuries each and every day thanks to QEII. In fact, QE II - not Queen Elizabeth but quantitative easing - QE II's size and breadth raises the severe question of the Treasury's needs.

The government's borrowing of money for the purpose of injecting cash into society, bailing out banks, brokers, and consumers, is a short-sighted, easy decision for a population that has not yet learned that short-sighted and easy strategies are the route to long-term ruin.

We never quite achieved the necessary catharsis to stoke a deep re-evaluation of our wants, needs, and fears. Importantly, the toxic twins of a fiat currency and an activist Fed remain firmly entrenched, even more so with the financial reforms enacted last year.

In fact, the Federal Reserve, despite having newly acquired broad powers of regulation, has insisted that nothing in field of economics and finance was of help in predicting the crisis. Such a conclusion is worthless. It guarantees we will make the same mistakes again.

So...I have a problem with our leaders...I should note that I've been very much overwhelmed on several occasions when considering the colossal mistakes of our leaders. We need better leaders, but very frankly, this need is unlikely to be met. A problem cannot be solved if it can never be acknowledged. Taxes need to be raised, loopholes need to be shut, spending needs to be cut if we are to have any hope of returning to a stable base. Certainly homeownership should not be a policy of the US government, and the banking system needs substantial reform and even bank breakups. Glass Steagal needs a second run in a strong form. And those 22.5 million public workers have no business unionizing against the taxpayer. The list of things that likely won't happen but should happen goes on and on.

As citizens of these United States, we should carefully consider what one trillion means. All personal income taxes collected in a year do not so much as add up to \$1 trillion dollars, and yet by 2020 interest expense on our national debt alone could exceed \$1 trillion. When you consider our \$1.7 trillion annual

deficit, also consider that the Treasury takes in just over 2 trillion dollars a year. 2 Trillion also happens to be roughly the amount of bank and government debt held now at the tremendously bloated Federal Reserve. Think about it, two trillion seconds is 64,000 years. Our country's math is scary big, but what's even more scary is that it simply does not work.

Arguments on blooming prosperity and economic recovery must be considered alongside the fact that all the debt and all the money being printed is very much a real bill, a real tax that has not yet come due, except with respect to savers and those on fixed income.

As such, sober analysis on the part of the individual is paramount. We must remember that entire societies can and often do follow the wrong path for a very long time, and that there is nothing wrong with breaking from the social norm to ensure good outcomes. Legacies are a terrible and sometimes fatal burden in a rapidly changing world, and common sense must rule when it comes to career paths and life choices. Though the situation seems to call for it, it is not a time for the responsible individual to tolerate any level of blind faith directed toward any man or woman. It is absolutely not a time to follow.

All that said, I might suggest opening a retail banking account in Canada.

Again, thank you for your attention. I am happy to answer questions.